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# Economic Freedom and Income Inequality: An Empirical Note for the Post-GFC Period

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## Abstract

This study examines the dynamic relationship between economic freedom and income inequality in 148 countries, focusing on the post-Global Financial Crisis (GFC) period. Utilizing the System-GMM estimation methodology to address endogeneity concerns, the research also reveals nuanced patterns in both developed and emerging markets. The analysis identifies a negative and statistically significant effect of the Economic Freedom Index (EFI) and its sub-components on income inequality, except the rule of law. Our findings reveal three important implications: (i) The effects of sub-indicators are quite close to each other in emerging markets, but differ significantly in developed economies, suggesting that policymakers in developed countries should pay more attention to certain areas of freedom when implementing policies to reduce inequalities. (ii) For all panels, the surprisingly small effects of government size underscores the weak role of government spending in mitigating inequality. (iii) Regulatory efficiency emerges as a key factor in reducing income inequalities, urging policymakers to prioritize improvement in regulatory processes. Overall, this study enriches policymakers' understanding and offers actionable insights to address global income inequality.

***Keywords:*** Income Inequality; Economic Freedom; Emerging Markets, Developed Countries, Panel Data Analysis.
***JEL Codes:*** C23, D63, E02, O50

## Ekonomik Özgürlükler ve Gelir Eşitsizliği: KFK Sonrası Dönem için Ampirik Bir Not

## Öz

Bu çalışma, 148 ülkede Küresel Finansal Kriz (KFK) sonrası döneme odaklanarak ekonomik özgürlükler ve gelir eşitsizliği arasındaki dinamik ilişkiyi incelemektedir. İçsellik problemini dikkate alarak Sistem-GMM metodolojisinin kullanıldığı çalışmada, hem gelişmiş hem de gelişen piyasalardaki farklı dinamikler araştırılmaktadır. Analiz sonuçları, Ekonomik Özgürlükler Endeksi'nin ve tüm alt bileşenlerinin gelir eşitsizliği üzerinde negatif ve istatistiksel olarak anlamlı bir etkisi olduğunu göstermektedir. Bulgular üç önemli çıkarım ortaya koymaktadır. (i) Alt göstergelerin etkileri gelişen piyasalarda birbirine oldukça yakınken, gelişmiş ekonomilerde önemli ölçüde farklılık göstermektedir; bu da gelişmiş ülkelerdeki politika yapıcıların eşitsizlikleri azaltmaya yönelik politika uygularken bazı özgürlük alanlarına daha fazla dikkat etmeleri gerektiğini göstermektedir. (ii) Tüm paneller için, hükümet büyüklüğünün şaşırtıcı derecede düşük etkileri, hükümet harcamalarının eşitsizliği azaltmadaki zayıf rolünün altını çizmektedir. (iii) Düzenleyici etkinlik, gelir eşitsizliklerinin azaltılmasında kilit bir faktör olarak ortaya çıkmakta ve politika yapıcıları düzenleyici süreçlerin iyileştirilmesine öncelik vermeye teşvik etmektedir. Sonuç olarak, bu çalışma küresel gelir eşitsizliğinin ele alınmasında politika yapıcıların anlayışını zenginleştirmekte ve uygulamaya dönük bilgiler sunmaktadır.

***Anahtar Kelimeler:*** Gelir Eşitsizliği, Ekonomik Özgürlükler, Gelişen Piyasalar, Gelişmiş Ekonomiler, Panel Veri Analizi
***Jel Kodları:*** C23, D63, E02, O50

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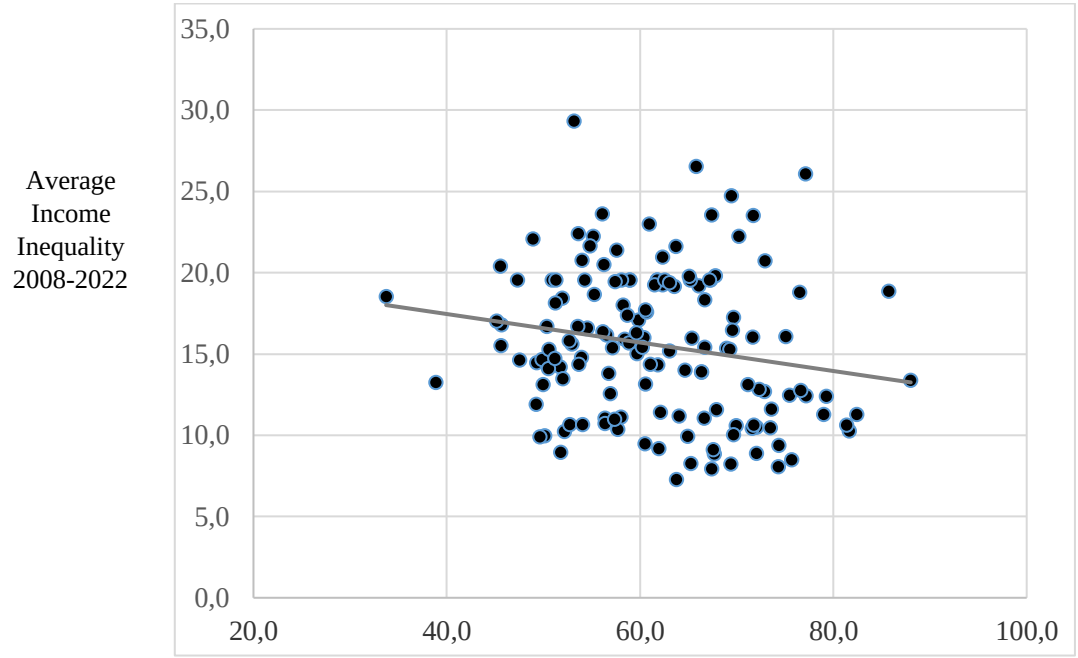
## Introduction

Since the 1980s, there have been substantial increases in liberal economic policies around the world, and there seems to be a consensus among researchers that the rapid growth of economies has accompanied this liberalization process (e.g., De Haan and Sturm, 2000; Berggren and Jordahl, 2005; Doucouliagos and Ulubasoglu, 2006; Bergh and Nilsson, 2010; Compton et al. 2011; Perez-Moreno and Angulo-Guerrero, 2016; Uzelac et al. 2020; Brkić et al. 2020). In this perspective, the pioneering study of Acemoglu et al. (2005) states that economic freedom, which constitutes Adam Smith's invisible hand, is related to many institutional factors such as the rule of law, monetary stability, civil liberties, security of property rights, and liberal trade regimes, and these factors have a very tight connection with economic growth. However, economic freedom may also have prominent repercussions on achieving other political goals related to human welfare, such as income distribution. Moreover, there is also a widespread belief that such changes will occur in exchange for increased income inequality within countries.

One of the most fundamental aims of governments is to formulate policies that aim to raise the standard of living in society while avoiding the creation of large gaps between income groups. Accordingly, since the early 2000s, some researchers (e.g., Carter, 2007; Bergh and Nilsson, 2010; and Bennett and Nikolaev, 2017) have begun to investigate the impact of economic freedom on income inequality in a world that is evolving toward more liberalized policies. There is an ongoing debate among researchers that economic freedom affects income inequality in two different ways. The first view is that economic freedom is achieved by removing legal barriers and more equal property rights, thereby reducing income inequality (Scully, 2002; Clark and Lawson, 2008; Webster, 2013). The second approach is that economic freedom implies more liberal economic policies through non-progressive taxes, expenditures, and regulatory framework, which leads to redistribution in favor of higher-income individuals and thus has an increasing effect on income inequality (Carter, 2007; Pérez-Moreno and Angulo-Guerrero, 2016; and Karakotsios et al. 2020). A growing list of empirical studies on the link between economic freedom and income inequality shows that economists have not yet reached a consensus on whether freedom is detrimental to inequality. One can argue that these varieties in the empirical literature may stem from several reasons. First, the world average income inequality data (World Inequality Database - WID, 2023) indicates that income inequality was on an increasing trend from the 1990s until the Global Financial Crisis (GFC) peaked in the crisis year and then followed a downward trend. Therefore, the fact that most previous studies used very long-term data and did not take structural breaks into account may have led to biased estimates.

On the other hand, according to the Economic Freedom Index (EFI) published by the Heritage Foundation, the world average EFI (excluding the COVID-19 period) followed an upward trend after the GFC. Moreover, the a priori information in Figure 1 that we construct for countries with accessible data raises the critical question of this study. Figure 1 shows how EFI is negatively correlated with income inequality.[1] Based on data from a sample of 148 countries.[2] In other words, the scatterplot implies that countries with higher economic freedom have lower income inequality and indicates evidence of the importance of economic freedom on income inequality. Based on this evidence, this study focuses on the post-GFC period and asks what extent economic freedom plays a role in income inequality. Empirically, we utilize the System-GMM estimation technique of Blundell and Bond (1998) to consider the dynamic structure of income inequality, potential endogeneity issues, and its appropriateness for large N and small T panels.

Figure 1: Inequality and Economic Freedom in the World

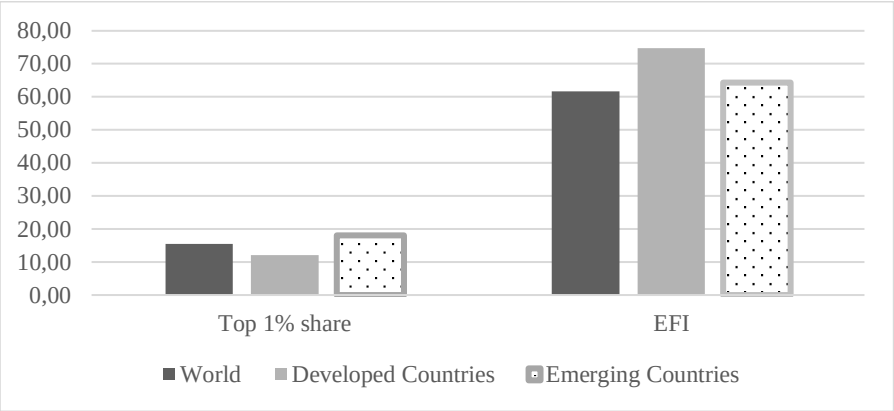



Second, income inequality and economic freedom can demonstrate significant differences between developed countries and emerging markets. Figure 2 indicates that income inequality is higher and economic freedom is lower in emerging markets compared to developed economies. To take these differences into consideration in this study, we also conduct our analyses for sub-panels of emerging markets and developed countries.

[1] Income inequality is measured by the pre-tax national income share held by the p99p100 group. Pre-tax national income is the sum of all pre-tax personal income flows accruing to the owners of the production factors, labor, and capital, before considering the pension system's operation.
[2] See Appendix Table A1 for the list of countries.

Figure 2: Inequality and Economic Freedom for sub-panels

(2008-2022 Averages)



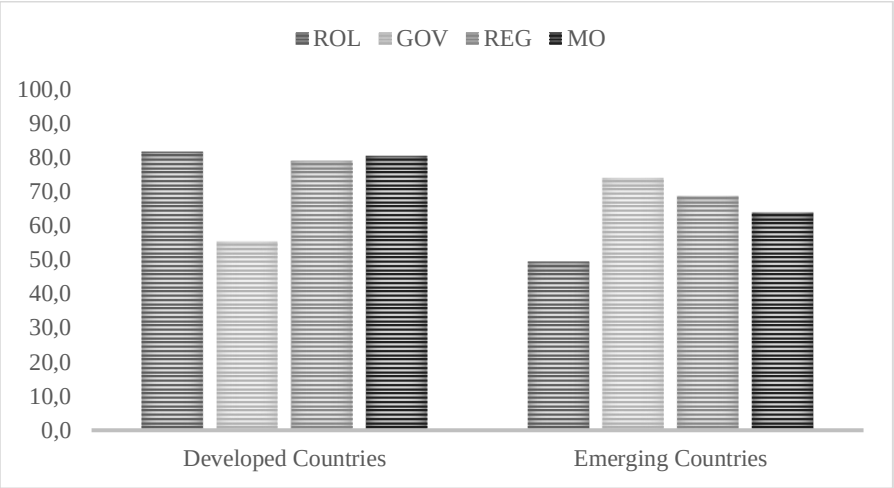

The top 1% share represents the pre-tax national income share held by the top 1% group.

EFI: Economic Freedom Index by Heritage Foundation

Third, this study also aims to evaluate the impact of sub-components of EFI on income inequality while considering traditional inequality determinants (GDP and inflation) for the period 2008-2022. Figure 3 reveals that economic freedom indicators vary significantly between country groups. Moreover, in both developed and emerging countries, some freedom indicators are at much lower levels of freedom than others. This observation also points to the importance of analyzing the impact of the sub-components of the EFI on inequality. In this way, our third contribution to the literature is to empirically provide different aspects of economic freedom that policymakers in both developed and emerging markets should focus on to decrease income inequalities.

To summarize, this study aims to contribute to the literature by differing from previous studies on three points. (i) Income inequality has been following a decreasing trend worldwide since 2008. This study focuses on this period and analyses the impact of economic freedoms on income inequality. (ii) Descriptive analyses using the most extensive available dataset show that economic freedom is relatively higher and income inequality is relatively lower in developed markets. Therefore, this study separately analyses and compares the relationship between economic freedom and income inequality in two different country groups (developed countries and emerging markets). (iii) The sub-components of economic freedom also have different dynamics for different country groups. This study tries to shed light on the effects of the sub-components of EFI on income inequality to provide spot-on policy recommendations.

Figure 3: Sub-indicators of the Economic Freedom Index
(2008-2022 Averages)




ROL: Rule of Law; GOV: Government Size; REG: Regulatory Efficiency; MO: Market Openness

The remainder of the work is organized as follows: Section 2 presents examples from the existing literature. Section 3 provides information on data and methodology. Section 4 reports the findings from the study, while Section 5 presents concluding remarks and policy implications.

## 1. Literature Review

In the existing literature, the impact of economic freedom on income inequality is a relatively new research question. In order to see the varieties more clearly, we present a sketch of empirical literature in Table 1. Most early studies conducted their analyses with static panel data estimators for large country groups and used only index scores for economic freedom. However, they could not reach a consensus. For example, the studies of Berggren (1999) and Scully (2002), which are among the first studies on this topic, made an important contribution to the empirical literature. Researchers argue that the relationship between economic freedom and income equality is complementary rather than competitive. More precisely, they show that as the level of economic freedom increases, income inequality decreases. Some other studies (e.g., Carter, 2007) conclude that an increase in EFI increases inequality, while others (Bergh and Nilsson, 2010 and Sturm and De Haan, 2015) do not detect a significant relationship.

There are also studies investigating the impact of economic freedom on income inequality at the state level in the United States (Ashby and Sobel, 2008; Bennett and Vedder, 2013; Webster, 2013; Apergis et al., 2014; Bennett, 2016; Wiseman, 2017). Ashby and Sobel (2008), the first paper to examine the relationship at the US state level, show that the relationship between economic freedom and income inequality is negative. Similarly, Bennett and Vedder (2013), Webster (2013), and Wiseman (2017), who use the EFNA index in their analysis, find a reducing impact of EFNA on income inequality, while Bennett (2016) obtains the opposite result. Apergis

et al. (2014), whose method is different from other studies, examine the causal link between economic freedom and income inequality within the framework of the panel error correction model. In this work, bidirectional causality is detected for both the short and long term. Karakotsios (2020) analyzes the linkages for the panel consisting of 58 countries using panel cointegration techniques and concludes that the causal link does not exist for the short term, but there is a causal link from economic freedom to income inequality. Differently, Apergis and Cooray (2017) utilize both linear and non-linear cointegration methodology in their analysis. According to linear long-term parameters, it is determined that economic freedom reduces income inequality. Moreover, non-linear long-term parameter estimates indicate that the relationship is negative above the threshold point and positive below the threshold point.

There are also some studies using the dynamic panel system GMM method developed by Blundell and Bond (1998) to tackle potential endogeneity. While some of these studies include the five components (Size of government, Legal structure and security of property rights, Access to sound money, Freedom to trade internationally, Regulation of credit, labor, and business) of the EFI index reported by the Fraser Institute (e.g. Bergh and Nilsson, 2010; Pérez-Moreno and Angulo-Guerrero, 2016; Ahmad and Nayan, 2019; Nazirou et al. 2022), others used only score of EFI (Batuo and Asongu, 2015; Bennett and Nikolaev, 2017; Huynh, 2022; De Soysa and Vadlamannati, 2023). The evidence on the effects of different economic freedom indices and their subcomponents on income inequality is also mixed. For example, Bergh and Nilsson (2010) find only the effect of the freedom to trade internationally component on income inequality to be positive, while the effect of other components is insignificant. Pérez-Moreno and Angulo-Guerrero (2016), who conducted their analysis for 28 E.U. countries, included the Heritage Foundation index as well as the Fraser Institute index to proxy the economic freedom in their studies. Researchers show that only the coefficient sign of EFI1 and the size of the government are positive, and other components are insignificant. The first study that analyzes the relationship between economic freedom and income inequality using the Heritage Foundation index was conducted by Bennett and Nikolaev (2017), and a positive relationship was found. At the same time, Batuo and Asongu, 2015, Huynh, 2022, and De Soysa and Vadlamannati, 2023 conclude that economic freedom increases income inequality.

Studies focusing on the effect of economic freedom on income inequality are few, but they are growing. It is clear that mixed results have been obtained from all these studies, which use various econometric methodologies and examine different country examples and periods. These imprecise findings provide policymakers and reformers with some guidance on the potential distributional effects of enacting institutional reforms that increase or decrease economic freedom (Bennett and

Nikolaev, 2017). In this context, our study contributes to the existing empirical literature by focusing on the economic freedom and inequality nexus for the post-GFC period and comparing the impact of both the EFI score and its sub-components on inequality for emerging markets and developed countries.

**Table 1: A sketch of the empirical literature on economic freedom-income inequality nexus**

| Author (s) | Sample | EF indicators | Methodology | Findings |
|---|---|---|---|---|
| Berggren (1999) | 66 countries 1975-1985 | EFI1 | OLS | Negative effect. |
| Scully (2002) | 26 countries 1975-1990 | EFI1 | OLS, 2SLS, 3SLS | Negative effect. |
| Carter (2007) | 39 countries 1980-2000 | EFI1 | FE | Positive effect. |
| Ashby and Sobel (2008) | U.S. states 1980-2003 | EFNA | OLS | Negative effect. |
| Clark and Lawson (2008) | 66 countries 1980-2002 | EFI1 | OLS | Negative effect. |
| Bergh and Nilsson (2010) | 79 countries 1970-2005 | EFI1<br>GOV, LS&PR<br>SM, FT, REGC | OLS/FE, SGMM | All coefficients are insignificant except FT. |
| Amendola et al. (2013) | 62 developing countries 1970-2004 | Property rights | OLS, FE | Positive effect. |
| Bennett and Vedder (2013) | 50 U.S. states 1979-2004 | EFNA | FE | Negative effect. |
| Webster (2013) | 50 U.S. states 2001-2010 | EFNA | OLS | Negative effect. |
| Apergis et al. (2014) | U.S. States 1981-2004 | EFI1 | Panel ECM<br>GC | Short run: EF ↔ IIE<br>Long run: EF ↔ IIE |
| Sturm and De Haan (2015) | 108 countries 1971-2010 | EFI1 | OLS | Insignificant. |
| Bennett and Cebula (2015) | 96 countries 1985-2010 | EFI1<br>GOV, LS&PR<br>SM, FT, REGC | OLS | EFI1 and FT: Insignificant.<br>GOV and REGC: Positive effect.<br>LS&PR and SM: Negative effect. |
| Batuo and Asongu (2015) | 26 African countries 1996-2010 | EFI1, FTI | SGMM | EFI1: Positive effect.<br>FTI: Negative effect. |
| Pérez-Moreno and Angulo-Guerrero (2016) | 28 EU member countries 2000-2010 | EFI1, EFI2<br>GOV, LS&PR<br>SM, FT, REG | FE, SGMM | EFI1 and GOV: Positive effect.<br>EFI2, LS&PR, SM, FT, REG: Insignificant. |
| Bennett (2016) | 50 U.S. states and 10 Canadian provinces 1980-2010 | EFNA, EFNA1<br>EFNA2, EFNA3 | FE | EFNA, EFNA1, EFNA3: Positive effect.<br>EFNA2: Negative effect. |
| Apergis and Cooray (2017) | 138 countries 1970-2010 | EFI1<br>GOV, LS&PR<br>SM, FT, REGC | Linear and Non-linear panel cointegration<br>Panel FMOLS<br>PSTR | Linear long run:<br>All coefficients are negative.<br>Non-linear:<br>Above TSP: Negative<br>Below TSP: Positive. |
| Bennett and Nikolaev (2017) | 112 countries 1970-2010 | EFI1, EFI2 | FE, SGMM | Positive effect. |
| Wiseman (2017) | U.S states 1979-2011 | EFNA, EFNA1<br>EFNA2, EFNA3 | FE | EFNA, EFNA2, EFNA3: Negative effect.<br>EFNA1: Insignificant. |

| | | | | |
|---|---|---|---|---|
| Ahmad (2017) | 115 countries<br>1970-2014 | EFI1<br>GOV, LS&PR<br>SM, FT, REGC | FE, Dif. GMM | EFI1: Positive effect.<br>GOV, LS&PR, SM: Insignificant.<br>FT, REGC: Positive effect. |
| Graafland and Lous (2018) | 21 OECD countries<br>1990-2014 | FF, LS&PR<br>SM, FT, REGC<br>PPR, MF, OM | RE | FF, FT, REGC, OM: Positive effect.<br>LS&PR: Insignificant.<br>SM, PPR, MF: Negative effect. |
| Rutledge (2018) | 186 countries<br>1970-2015 | EFI1, EFI2<br>GOV, LS&PR<br>SM, FT, REGC<br>ROL, OM, REG | OLS/FE | EFI1 and EFI2: Positive effect.<br>GOV, FT, REGC, ROL, REG: Insignificant.<br>LS&PR, SM, OM: Positive effect. |
| Ahmad and Nayan (2019) | 117 countries<br>1970-2014 | GOV, LS&PR<br>SM, FT, REG | FE, SGMM | GOV, LS&PR, REG: Negative effect.<br>SM: Insignificant.<br>FT: Positive effect. |
| Karakotsios (2020) | 58 countries<br>1995-2016 | EFI2 | PMG | EFI2: Positive effect.<br>Short run: No causality<br>Long run: EFI2→IIE |
| Huynh (2022) | 35 Asian countries<br>2000–2018 | EFI1, EFI2 | FE, SGMM | Positive effect. |
| Nazirou et al. (2022) | 44 SSA<br>2000-2017 | GOV, LS&PR<br>SM, FT, REGC | OLS, GLS, SGMM | GOV, FT, REGC: Negative effect.<br>LS&PR: Positive effect.<br>SM: Insignificant. |
| De Soysa and Vadlamannati (2023) | 128 countries<br>1990-2017 | EFI1 | FE, SGMM | Positive effect. |

Notes: * EFI1: Economic Freedom Index (Fraser Institute), EFI2: Economic Freedom Index (Heritage Foundation), EFNA: Economic Freedom of North America, EFNA1: Size of Government, EFNA2: Distortionary Taxation and Takings, EFNA3: Labor Market Freedom, GOV: Government, LS&PR: Legal Structure and Security of Property Rights, SM: Access to Sound Money, FT: Freedom to Trade Internationally, REGC: Regulation of Credit, Labor, and Business, PPR: Protection of Property Rights, MF: Monetary Freedom, OM: Open Markets, REG: Regulatory Efficiency, ROL: Rule of Law, FTI: Freedom of Trade Index, FF: Fiscal Freedom, SSA: Sub-Saharan African.

* OLS: Ordinary Least Squares: 2SLS: Two-Stage Least Squares, 3SLS: Three-Stage Least Squares, FE: Fixed Effects, RE: Random Effects, Dif: Difference, SGMM: System Generalized Method of Moments, ECM: Error Correction Model, GC: Granger Causality, FMOLS: Fully Modified Ordinary Least Squares, PSTR: Panel Smooth Transition Regression, GLS: Generalized Least Squared. PMG: Pooled Mean Group

## 2. Data and Methodology

This study focuses on the role of economic freedom on income inequality by utilizing dynamic panel data methodology. Due to the data availability and continuity of the other control variables, our panel covers 148 countries during the period 2008-2022. We also conduct our analyses for sub-panels of developed countries[3] and emerging countries[4] We are using MSCI market classification to take into account the common economic characteristics of countries. We choose to use the pre-tax national income share held by the top 1% group in an economy to proxy income inequality because it shows more variability than other inequality indicators and is

[3] The developed countries consist of Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, and the United States.

[4] The emerging markets include Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, South Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Saudi Arabia, South Africa, Thailand, Turkey, and the United Arab Emirates.

available for a larger number of countries.[5] Table 2 shows the measurements and sources of variables, and the descriptive statistics for all variables are provided in Table A2.

**Table 2: Measurements and Sources of Variables**

| Variables | Measurements | Sources |
|---|---|---|
| INEQ | Pre-tax national income share held by the p99-p100 group. | World Income Inequality Database |
| EFI | Economic Freedom Index (Overall score) | Heritage Foundation |
| ROL | Rule of Law (score) | Heritage Foundation |
| GOV | Government Size (score) | Heritage Foundation |
| REG | Regulator Quality (score) | Heritage Foundation |
| MO | Market Openness (score) | Heritage Foundation |
| GDP | GDP per capita (constant 2015 US$) | World Bank- WDI |
| CPI | Consumer Price Index | World Bank-WDI |

*WDI: World Development Indicators

The economic freedom index of the Heritage Foundation consists of 12 different aspects of economic freedom and these aspects are grouped into four broad categories: 1) Rule of Law (property rights, judicial effectiveness, and government integrity), 2) Government Size (tax burden, government spending, and fiscal health), 3) Regulatory Efficiency (business freedom, labor freedom, and monetary freedom), and 4) Open Market (trade Freedom, investment freedom, and financial freedom). The Economic Freedom Index and its subcomponents are scaled from 0 (repressed) to 100 (freest). A country's overall score is derived by averaging these economic freedom indicators, with equal weight given to each.

We also report the correlation matrices between the variables in our empirical analysis for the whole sample, developed countries, and emerging countries samples (See Table A3). The results

[5] There are two most commonly used indicator of equality in the literature. One of them is the Gini coefficient which is calculated for gross income, net income or consumption expenditure. Many of the previous work (e.g. Clark and Lawson, 2008; Apergis and Cooray, 2017 and Huynh, 2022) on income inequality used the Gini measures of the Standardized World Income Inequality Database (SWIID) created by Solt (2008). Although the SWIID database provides data for almost every country in the world, the start and end dates of the data are highly variable. For example, while data for 181 countries are available for 2008, data for 85 of these countries are available in 2020, and for only 30 countries in 2022.

As a second best solution, some researchers (e.g. Carter, 2007; Amendola et. al, 2013) benefit from the income inequality data of the World Income Inequality Database (WIID), created by the World Institute for Development Economics Research of the United Nations University. The WIID provides a larger dataset for inequality measures. Since this study aims to analyze the relationship between inequality and economic freedom with data from the largest group of countries and since there is a possibility of a broader comparison when countries are divided into developed and developing country groups, it is preferred to use data from the WIID database. Although we analyzed both using income inequality measure for pre-tax national income share held by the p90p100 group and for pre-tax national income share held by the p99p100 group, the findings are quite similar to each other as both inequality indicators move together in the world average. We prefer to report for the second measure of income inequality but other results can be provided by the authors if desired.

indicate that EFI and its subcomponents correlate negatively with income inequality, while GDP and CPI positively correlate with inequality. Since there are high correlations between EFI and its subcomponents, in order to avoid the multicollinearity problem, indicators of economic freedom will be included separately in the model.

Based on the empirical income inequality methodology, we construct the following dynamic panel data model:

$$INEQ_{it} = \beta INEQ_{it-1} + \gamma X_{it} + \delta EF_{it} + \eta_i + \varphi_t + \varepsilon_{it} \quad (1)$$

Where the subscripts $i$ and $t$ represent country and time period, respectively. $INEQ_{it}$ represents the pre-tax national income share held by the top 1% group. Following the existing literature (e.g., Bergh and Nilsson, 2010; Apergis and Cooray; and Huynh, 2022) on income inequality, we added $X_{it}$ as the set of control variables consisting of real GDP per capita and consumer price index (CPI). Previous works indicate that the expected sign of these variables on income inequality is ambiguous. $EF$ represents economic freedom indicators, i.e., Economic Freedom Index (EFI), Rule of Law (ROL), Government Size (GOV), Regulatory Quality (REG), and Market Openness (MO), respectively. $\eta_i$ is country-fixed effects, $\varphi_t$ is the period-fixed effects, and $\varepsilon_{it}$ is the error term. Since economic freedom indicators are included in each model separately, five models are estimated for each group of panels. We include lagged inequality in the regression model because there is a significant relationship between inequality data in t and t-1. All variables are in natural logarithms.

Estimating such a model with OLS leads to inconsistent estimators since $INEQ_{-1}$ and $\eta_i$ are necessarily correlated. To overcome this problem, Arellano and Bond (1991) suggest using the first differences of the variables to eliminate the fixed effects, which is known as the First Difference GMM in the following form:

$$\Delta INEQ_{it} = \beta \Delta INEQ_{it-1} + \gamma \Delta X_{it} + \delta \Delta EF_{it} + \Delta\eta_i + \Delta\varphi_t + \Delta\varepsilon_{it} \quad (2)$$

However, the correlation problem between the lagged dependent variable and the error term is not solved. Arellano and Bond (1991) offer to use the lagged dependent and explanatory variables as instruments, but Blundell and Bond (1998) show that lagged values of explanatory variables may be weak instruments, and when the independent variables are persistent over time, the first difference GMM estimator leads to large sample bias. Blundell and Bond (1998) proposed a System GMM (SGMM) estimator, which combines the first difference regressions and regressions in levels in a system to eliminate small sample bias arising from weak instruments.

Two critical diagnostics should be provided to identify the consistency of SGMM estimators. The first is the Hansen (1982) test of overidentifying restrictions, which tests the null hypothesis of the validity of the instruments. The second is the Arellano-Bond test for first and second order

autocorrelations. It is expected that the test fails to reject the null hypothesis of no second-order serial correlation which indicates that the original error term is not serially correlated and the moment conditions are well specified.

## 3. Empirical Findings

We present the dynamic panel regression estimates of the effects of economic freedom on income inequality for the whole panel, including 148 countries, in Table 3. To investigate whether the relationship between economic freedom and inequality changes when countries in the panel exhibit similar economic characteristics, we also conduct the same analysis for the developed countries and emerging markets panels and report the results in Tables 4 and 5, respectively. All the columns in Tables (3) to (5) include the lagged dependent variable and control variables. In column (1), the economic freedom index (EFI) is included in the model, while the sub-components of the EFI are used in the models, respectively, in columns (2) to (5). We first start by checking the consistency of the two-step System-GMM estimators, which relies on the assumption that the error term does not have second-order autocorrelation and on the validity of the instruments. The diagnostic tests on System-GMM estimation models reveal the following. The results of the Hansen-J tests do not reject the validity of the overidentifying restrictions for all panels. All the models in all the estimated panels passed the AR (2) tests, indicating that the null of no second-order autocorrelation of residuals is strongly rejected. Therefore, we can go one step further and interpret the estimated coefficients since all the estimated models are adequately specified.

**Table 3: SGMM estimates for the whole sample**

| Variables | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Lagged dep vrb. | 0.408*** | 0.869*** | 0.380*** | 0.460*** | 0.387*** |
| | (0.093) | (0.075) | (0.101) | (0.089) | (0.096) |
| lnGDP | 0.945*** | 0.296*** | 1.028*** | 0.868*** | 0.975*** |
| | (0.140) | (0.110) | (0.161) | (0.135) | (0.144) |
| lnCPI | 0.032*** | 0.009*** | 0.016*** | 0.026*** | 0.030*** |
| | (0.006) | (0.003) | (0.004) | (0.005) | (0.006) |
| lnEFI | -0.156*** | - | - | - | - |
| | (0.027) | | | | |
| lnROL | - | -0.024 | - | - | - |
| | | (0.019) | | | |
| lnGOV | - | - | -0.114*** | - | - |
| | | | (0.020) | | |
| lnREG | - | - | - | -0.131*** | - |
| | | | | (0.024) | |
| lnMO | - | - | - | - | -0.155*** |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | (0.027) |
| AR(1) | -4.17 | -4.73 | -3.77 | -4.53 | -3.99 |
| | [0.000] | [0.000] | [0.000] | [0.000] | [0.000] |
| AR(2) | 1.08 | 1.31 | 0.66 | 1.16 | 1.14 |
| | [0.279] | [0.189] | [0.512] | [0.247] | [0.255] |
| Hansen test | 0.17 | 1.54 | 0.23 | 3.33 | 0.62 |
| | [0.684] | [0.464] | [0.634] | [0.189] | [0.432] |
| Observations | 2072 | 2072 | 2072 | 2072 | 2072 |
| Number of countries | 148 | 148 | 148 | 148 | 148 |

Note: GDP: Real GDP per capita, CPI: Consumer Price Index, ROL: Rule of Law, GOV: Government Size, REG: Regulatory Quality, MO: Market Openness. Robust standard errors are in parentheses. ***, **, and * indicates 1%, 5%, and 10% levels of significance, respectively. Numbers in brackets show the p-values of the related diagnostic tests.

In order to proceed with a comparison across panels and to avoid repetitive statements for the reader, the results of the System GMM estimates in Tables (3) to (5) will be evaluated together. First, the lagged inequality is found to be statistically significant in thirteen out of fifteen estimated models. This results confirms the use of dynamic panel methodology by pointing out that omitting the lagged dependent variable will lead to biased estimates. A positive coefficient of the lagged inequality variable indicates a hysteria in income inequality. Considering the sub-panels, the coefficient is higher in emerging markets. Second, the impact of GDP per capita on income inequality is positive and statistically significant for all models. The findings quite robustly reveal that inequality is mostly affected by the changes in GDP per capita. In developed countries, a 1% change in GDP per capita increases inequality by approximately 1.1%, while 0.63% in emerging countries. Theoretical expectations regarding the relationship between economic growth and income inequality vary in the literature. Generally, the majority of research focuses on the "inverted-U curve of Kuznets (1955)" and states that income inequality increases at the beginning of the industrialization process and then decreases. The second theoretical approach argues that the fact that economic growth benefits people at the top of the income group through large capital gains is a factor that increases income inequality. The last theoretical expectation is that economic growth will reduce income inequality. This can happen when low-wage workers move from the informal employment sector to the formal employment sector (Yang and Greaney, 2017). Our findings are in line with the second approach and confirm the findings of Wahiba and El Weriemmi (2014) and Rubin and Segal (2015), which show that economic growth increases income inequality.Thirdly, while the estimated coefficients of CPI are statistically significant in all models for the whole sample, they are statistically insignificant in all model estimates for the emerging countries case. Therefore, the effect of CPI on income inequality is strongly robust, as

is the inclusion of different measures of economic freedom in the estimated models. In developed countries, the link between CPI and inequality is detected for only 2 out of 5 models. The evidence for the impact of inflation on income inequality in the empirical literature is inconclusive. The theoretical expectation regarding the relationship between inflation and income inequality can be positive or negative. Theoretically, income inequality increases as rising inflation reduces the purchasing power of the poor in an economy. The decrease in income inequality occurs only when inflation increases nominal income, and thereby, the rich may have to pay higher income taxes (Law and Soon, 2020). Our findings for the impact of CPI on income inequality support the theoretical expectations and confirm the results of, e.g., Blejer and Guerrero (1990) and Silber and Zilderfarb (1995), who find in their studies that inflation leads to an increase in income inequality.The findings on the effects of economic freedom on inequality, which is the focus of this study, also provide interesting insights. Results indicate a negative and statistically significant effect of EFI on income inequality for all panel estimations, and the largest impact is detected in the developed countries panel. These findings clearly confirm the expected negative relationship between freedom and inequality in line with previous literature (Berggren, 1999; Scully, 2002; Ashby and Sobel, 2008; Clark and Lawson, 2008; Webster, 2013; Apergis and Cooray, 2017; Wiseman, 2017). Tables (3) to (5) also demonstrate the results of the individual economic freedom indicators regarding ROL, GOV, REG, and MO. All subcomponents of EFI have a statistically significant and negative effect on income inequality, except ROL. The empirical results point to important policy implications at three points for our three-panel data set.

**Table 4: SGMM estimates for developed countries**

| Variables | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Lagged dep vrb. | 0.210 | 0.432* | 0.290 | 0.290** | 0.255* |
| | (0.151) | (0.258) | (0.287) | (0.135) | (0.136) |
| lnGDP | 1.261*** | 0.903*** | 1.157*** | 1.164*** | 1.153*** |
| | (0.271) | (0.350) | (0.404) | (0.259) | (0.225) |
| lnCPI | 0.076*, | 0.018 | -0.007 | 0.081* | 0.046 |
| | (0.046) | (0.037) | (0.025) | (0.044) | (0.042) |
| lnEFI | -0.285** | - | - | - | - |
| | (0.117) | | | | |
| lnROL | - | -0.113 | - | - | - |
| | | (0.113) | | | |
| lnGOV | - | - | -0.068* | - | - |
| | | | (0.041) | | |
| lnREG | - | - | - | -0.278** | - |
| | | | | (0.109) | |

| | | | | | |
|---|---|---|---|---|---|
| lnMO | - | - | - | - | -0.210** |
| | | | | | (0.098) |
| AR(1) | -1.41 | -1.46 | -1.04 | -1.74 | -1.74 |
| | [0.159] | [0.143] | [0.299] | [0.081] | [0.082] |
| AR(2) | -1.13 | -0.51 | -0.99 | -0.93 | -0.96 |
| | [0.258] | [0.608] | [0.324] | [0.353] | [0.337] |
| Hansen test | 4.76 | 1.25 | 0.87 | 5.01 | 4.68 |
| | [0.093] | [0.534] | [0.648] | [0.082] | [0.096] |
| Observations | 345 | 345 | 345 | 345 | 345 |
| Number of countries | 23 | 23 | 23 | 23 | 23 |

Note: See the notes for Table 1.

One of the striking points is that among the economic freedom indicators that reduce income inequality, the most is REG. Regulatory efficiency is an indicator formed by the average of business freedom, labor freedom, and monetary freedom. Therefore, a less restrictive regulatory environment, including less difficulty in starting, operating, and closing a business, allows enterprises to operate more efficiently and may be a factor that reduces income inequality. On the other side, the less restrictive legal and regulatory frameworks for the labor market, including regulations concerning minimum wages and laws inhibiting layoffs, may also facilitate labor market efficiency and lead to a decrease in inequality. Lastly, a more stable price index without intervention provides less distorting market activity, which in turn may lead to a better income distribution. The fact that all these three indicators are more functional in developed economies and have been experienced over a more extended period of time may have caused the impact to be higher in these countries.The indicator with the lowest impact is GOV for the developed countries and emerging markets panels. Even though it has been proven by many theoretical and empirical studies that government expenditures, including transfer payments and taxes on personal and corporate income, have significant effects on income distribution. Our results are in line with (Bergh and Nilsson 2010; Ahmad, 2017; Wiseman, 2017 and Rutledge, 2018), who also provide no evidence of crucial relationships between government size and income inequality. Government size is derived by averaging scores of tax burden, government spending, and fiscal health of a country. Compared to other economic freedom indicators, government size has the lowest score for developed countries and the highest score for emerging markets. However, the estimation results show that the effect of government size on inequality is almost the same and at a low level for both groups of countries. This may be because the optimal level of public sector size is influenced by many factors, such as the geo-political structure and economic development of countries, and is highly sensitive to the decisions of the political mechanism. Therefore, this

may have caused the effect to remain relatively low in panel data analysis. Another remarkable finding is that when the effects of economic freedom sub-components are examined more carefully, it can be stated that the coefficients are quite close to each other in emerging markets, but differ significantly in developed economies. This finding suggests that advanced economies should pay more attention to some areas of economic freedom when developing and implementing policies to reduce income inequality.

**Table 5: SGMM estimates for emerging countries**

| Variables | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Lagged dep vrb. | 0.528** | 0.466* | 0.551** | 0.530** | 0.490** |
| | (0.245) | (0.263) | (0.246) | (0.251) | (0.246) |
| lnGDP | 0.611** | 0.692** | 0.598** | 0.604** | 0.649** |
| | (0.302) | (0.321) | (0.309) | (0.306) | (0.301) |
| lnCPI | -0.003 | -0.010 | -0.013 | -0.001 | -0.007 |
| | (0.012) | (0.015) | (0.014) | (0.011) | (0.014) |
| lnEFI | -0.083* | - | - | - | - |
| | (0.048) | | | | |
| lnROL | - | -0.085 | - | - | - |
| | | (0.057) | | | |
| lnGOV | - | - | -0.051* | - | - |
| | | | (0.030) | | |
| lnREG | - | - | - | -0.087* | - |
| | | | | (0.051) | |
| lnMO | - | - | - | - | -0.083* |
| | | | | | (0.046) |
| AR(1) | -2.50 | -2.15 | -2.51 | -2.42 | -2.39 |
| | [0.012] | [0.032] | [0.012] | [0.015] | [0.017] |
| AR(2) | -0.28 | -0.36 | -0.32 | -0.30 | -0.28 |
| | [0.776] | [0.720] | [0.751] | [0.768] | [0.783] |
| Hansen test | 2.78 | 2.19 | 3.32 | 2.51 | 2.42 |
| | [0.249] | [0.335] | [0.190] | [0.286] | [0.298] |
| Observations | 345 | 345 | 345 | 345 | 345 |
| Number of countries | 23 | 23 | 23 | 23 | 23 |

Note: See the notes for Table 1.

## 4. Concluding Remarks and Policy Implications

Our study delves into the dynamic panel regression analysis, examining the intricate relationship between economic freedom and income inequality across 148 countries. To refine our insights, we further investigate this association within specific economic contexts and focus on developed countries and emerging markets. In this way, we aim to shed light on nuanced

patterns that may emerge within these distinct groups. The key findings underscore several crucial insights. Firstly, the persistence of lagged inequality as a statistically significant variable across the models emphasizes the importance of dynamic panel methodology, suggesting that neglecting the lagged dependent variable would lead to biased estimates. Moreover, the positive and statistically significant effect of GDP per capita on income inequality is consistent with the idea that economic growth tends to exacerbate inequality, more pronounced in developed markets. Therefore, policymakers should develop targeted strategies to mitigate this inequality-inducing effect of economic growth. This could involve implementing inclusive growth policies that ensure the benefits of economic development are equitably distributed. Investing in education, healthcare, and social safety nets can empower marginalized populations, foster social mobility, and reduce wealth accumulation disparities. While the impact of CPI is statistically significant in models for the whole sample, its effect becomes statistically insignificant in emerging markets, indicating the robustness of this variable to different measures of economic freedom and for different samples. In developed countries, the link between CPI and inequality is observed in only two out of five models, revealing the complexity of the relationship between inflation and income inequality. This finding implies that policymakers in developed countries should adopt measures that balance the potential adverse effects of inflation on the purchasing power of the poor by implementing, e.g., social protection programs, subsidies, and progressive tax structures. The core focus of our study-economic freedom and its sub-components-provides interesting insights. Notably, a negative and statistically significant effect of EFI on income inequality is observed across all panels, with the most substantial impact in developed countries. This aligns with existing literature supporting the anticipated negative link between freedom and inequality. The sub-components of EFI, namely GOV, REG, and MO, also exhibit statistically significant and negative effects on income inequality in all models. These findings have crucial policy implications, suggesting that fostering a business-friendly environment, implementing less restrictive labor market regulations, and maintaining stable price indices can contribute to a more equal income distribution. Clearly, the impact of sub-indicators of EFI varies between developed and emerging economies, emphasizing the importance of specific policy considerations. Although government size (GOV) is often considered a significant factor in income distribution, it exhibits a surprisingly low impact, highlighting the relatively weak role of government spending on inequality. The striking finding that regulatory efficiency (REG) mostly and significantly reduces income inequality suggests that policymakers should prioritize improving regulatory processes. This includes identifying and removing unnecessary bureaucratic obstacles, simplifying licensing procedures, and promoting transparency in regulatory decision-making. By creating a more

efficient regulatory environment, governments can facilitate business growth, encourage entrepreneurship, and increase economic inclusion. Overall, our study not only enriches the understanding of the complex dynamics between economic freedom and income inequality but also provides actionable insights for policymakers. The nuanced differences observed in different economic contexts underscore the importance of tailored policy approaches in addressing income inequality on a global scale.

## Appendix

**Table A1: Country List**

| | | | | | |
|---|---|---|---|---|---|
| Albania | Chad | Greece | Lebanon | Niger | South Korea |
| Algeria | Chile | Guatemala | Lesotho | Nigeria | Spain |
| Angola | China | Guinea | Liberia | Norway | Sri Lanka |
| Armenia | Colombia | Guinea-Bissau | Lithuania | North Macedonia | Suriname |
| Australia | Congo | Guyana | Luxembourg | Pakistan | Sweden |
| Austria | Costa Rica | Haiti | Macau | Panama | Switzerland |
| Azerbaijan | Cote D'lvoire | Honduras | Madagascar | Papua New Guinea | Tanzania |
| Bahamas | Croatia | Hong-Kong | Malawi | Paraguay | Thailand |
| Bahrain | Cyprus | Hungary | Malaysia | Peru | Timor-Leste |
| Bangladesh | Czech Rep. | Iceland | Maldives | Philippines | Togo |
| Belarus | Denmark | India | Mali | Poland | Trinidad &Tobago |
| Belgium | Dominican Rep. | Indonesia | Malta | Portugal | Tunisia |
| Belize | Ecuador | Iran | Mauritania | Qatar | Turkey |
| Benin | Egypt | Ireland | Mauritius | Romania | Uganda |
| Bhutan | El Salvador | Israel | Mexico | Russia | Ukraine |
| Bolivia | Equatorial | Italy | Moldova | Rwanda | UAE |
| Botswana | Estonia | Jamaica | Mongolia | Sao Tome | UK |
| Brazil | Ethiopia | Japan | Montenegro | Saudi Arabia | USA |
| Bulgaria | Finland | Jordan | Morocco | Senegal | Uruguay |
| Burkina Faso | France | Kazakhstan | Mozambique | Serbia | Uzbekistan |
| Burundi | Gabon | Kenya | Namibia | Sierra Leone | Vietnam |
| Cambodia | Gambia | Kuwait | Nepal | Singapore | Zambia |
| Cameroon | Georgia | Kyrgyz Rep. | Netherlands | Slovak Rep. | Zimbabwe |
| Canada | Germany | Laos | New Zealand | Slovenia | |
| Cabo Verde | Ghana | Latvia | Nicaragua | South Africa | |

**Table A2. Descriptive Statistics**

| | Variables | INEQ | EFI | ROL | GOV | REG | MO | GDP | CPI |
|---|---|---|---|---|---|---|---|---|---|
| Whole Sample | Mean | 2.696 | 4.109 | 3.734 | 4.229 | 4.200 | 4.088 | 8.682 | 4.831 |
| | Std. Dev. | 0.316 | 0.168 | 0.464 | 0.248 | 0.149 | 0.274 | 1.442 | 0.344 |
| | Min | 1.764 | 3.063 | 2.376 | 2.907 | 2.914 | 2.459 | 5.569 | 4.323 |
| | Max | 3.572 | 4.502 | 4.585 | 4.560 | 4.559 | 4.522 | 11.612 | 9.312 |
| | Variables | INEQ | EFI | ROL | GOV | REG | MO | GDP | CPI |
| Developed Countries | Mean | 2.458 | 4.309 | 4.392 | 3.960 | 4.365 | 4.384 | 10.694 | 4.684 |
| | Std. Dev. | 0.234 | 0.095 | 0.141 | 0.328 | 0.094 | 0.077 | 0.320 | 0.077 |
| | Min | 1.927 | 4.074 | 3.789 | 2.907 | 4.165 | 4.148 | 9.830 | 4.545 |
| | Max | 3.046 | 4.502 | 4.585 | 4.560 | 4.559 | 4.522 | 11.485 | 4.939 |
| | Variables | INEQ | EFI | ROL | GOV | REG | MO | GDP | CPI |
| Emerging Countries | Mean | 2.855 | 4.158 | 3.869 | 4.286 | 4.226 | 4.144 | 9.223 | 4.786 |
| | Std. Dev. | 0.300 | 0.107 | 0.260 | 0.192 | 0.098 | 0.168 | 0.887 | 0.235 |
| | Min | 2.024 | 3.871 | 3.190 | 3.469 | 3.959 | 3.613 | 6.991 | 4.387 |
| | Max | 3.388 | 4.369 | 4.413 | 4.533 | 4.422 | 4.415 | 11.204 | 6.296 |

Note: All the variables are in logarithm form.

**Table A3: Correlation Matrix**

| | | INEQ | EFI | ROL | GOV | REG | MO | GDP | CPI |
|---|---|---|---|---|---|---|---|---|---|
| Whole Sample | INEQ | 1.000 | | | | | | | |
| | EFI | -0.189 | 1.000 | | | | | | |
| | ROL | -0.297 | 0.784 | 1.000 | | | | | |
| | GOV | -0.329 | 0.029 | -0.315 | 1.000 | | | | |
| | REG | -0.207 | 0.778 | 0.669 | -0.127 | 1.000 | | | |
| | MO | -0.217 | 0.797 | 0.699 | -0.173 | 0.597 | 1.000 | | |
| | GDP | 0.277 | 0.670 | 0.765 | -0.297 | 0.622 | 0.592 | 1.000 | |
| | CPI | 0.109 | -0.260 | -0.148 | 0.061 | -0.303 | -0.302 | -0.229 | 1.000 |
| | | INEQ | EFI | ROL | GOV | REG | MO | GDP | CPI |
| Developed Countries | INEQ | 1.000 | | | | | | | |
| | EFI | -0.224 | 1.000 | | | | | | |
| | ROL | -0.069 | 0.697 | 1.000 | | | | | |
| | GOV | -0.404 | 0.617 | 0.171 | 1.000 | | | | |
| | REG | -0.288 | 0.777 | 0.543 | 0.368 | 1.000 | | | |
| | MO | -0.019 | 0.570 | 0.409 | 0.155 | 0.400 | 1.000 | | |
| | GDP | 0.035 | 0.545 | 0.589 | 0.239 | 0.396 | 0.371 | 1.000 | |
| | CPI | 0.057 | 0.096 | 0.119 | 0.246 | 0.018 | 0.194 | 0.093 | 1.000 |
| | | INEQ | EFI | ROL | GOV | REG | MO | GDP | CPI |
| Emerging Countries | INEQ | 1.000 | | | | | | | |
| | EFI | -0.097 | 1.000 | | | | | | |
| | ROL | -0.194 | 0.709 | 1.000 | | | | | |
| | GOV | -0.212 | 0.800 | 0.578 | 1.000 | | | | |
| | REG | -0.346 | 0.426 | -0.058 | 0.163 | 1.000 | | | |
| | MO | -0.191 | 0.704 | 0.419 | 0.491 | -0.050 | 1.000 | | |
| | GDP | 0.257 | 0.529 | 0.624 | 0.517 | 0.006 | 0.308 | 1.000 | |
| | CPI | 0.174 | -0.230 | -0.025 | -0.322 | -0.216 | 0.016 | -0.202 | 1.000 |

ROL: Rule of Law, Gov: Government Size, REG: Regulatory Quality, MO: Market Openness.

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## Genişletilmiş Özet

1980'lerden bu yana dünya genelinde liberal ekonomi politikalarında önemli artışlar yaşanmış ve ekonomilerin hızlı büyümesinin bu liberalleşme sürecine eşlik ettiği konusunda araştırmacılar arasında bir fikir birliği oluşmuştur (örneğin De Haan ve Sturm, 2000; Berggren ve Jordahl, 2005; Doucouliagos ve Ulubasoglu, 2006; Bergh ve Nilsson, 2010; Compton vd. 2011; Perez-Moreno ve Angulo-Guerrero, 2016; Uzelac vd. 2020; Brkić vd. 2020). Bu perspektifte, Acemoğlu ve diğerlerinin (2005) öncü çalışması, Adam Smith'in görünmez elini oluşturan ekonomik özgürlüğün hukukun üstünlüğü, parasal istikrar, insan hakları, mülkiyet haklarının güvenliği ve liberal ticaret rejimleri gibi birçok kurumsal faktörle ilişkili olduğunu ve bu faktörlerin ekonomik büyüme ile çok sıkı bir bağlantısı olduğunu belirtmektedir. Ancak ekonomik özgürlüğün, gelir dağılımı gibi insan refahıyla ilgili diğer siyasi hedeflere ulaşılması üzerinde de önemli yansımaları olabilmektedir. Dahası, bu tür değişikliklerin ülkelerdeki gelir eşitsizliğinin artması pahasına gerçekleşebileceğine dair yaygın bir inanç da vardır. Hükümetlerin en temel amaçlarından biri, gelir grupları arasında büyük uçurumlar yaratmaktan kaçınırken, toplumdaki yaşam standardını yükseltmeyi hedefleyen politikalar oluşturmaktadır. Bu doğrultuda, 2000'li yılların başından itibaren bazı araştırmacılar, daha liberal politikalara doğru evrilen bir dünyada ekonomik özgürlüğün gelir eşitsizliği üzerindeki etkisini incelemeye başlamıştır. Ekonomik özgürlüğün gelir eşitsizliğini iki farklı şekilde etkilediğine dair araştırmacılar arasında süregelen bir tartışma vardır. İlk görüş, ekonomik özgürlüğün yasal engellerin kaldırılması ve daha eşit mülkiyet hakları yoluyla elde edildiği ve böylece gelir eşitsizliğini azalttığı yönündedir (Scully, 2002; Clark ve Lawson, 2008; Webster, 2013). İkinci yaklaşım ise ekonomik özgürlüğün, artan oranlı olmayan vergiler, harcamalar ve düzenleyici kurumlar yoluyla daha liberal ekonomi politikaları anlamına geldiği, bunun da daha yüksek gelirli bireyler lehine yeniden dağıtıma yol açtığı ve dolayısıyla gelir eşitsizliği üzerinde artırıcı bir etkiye sahip olduğudur (Carter, 2007; Pérez-Moreno ve Angulo-Guerrero, 2016 ve Karakotsios vd. 2020).Ekonomik özgürlük ve gelir eşitsizliği arasındaki bağlantıyı inceleyen ampirik çalışmaların sayısının giderek artması, araştırmacıların özgürlüğün eşitsizlik için zararlı olup olmadığı konusunda henüz bir fikir birliğine varamadıklarını göstermektedir. Ampirik literatürdeki bu çeşitliliğin birkaç nedenden kaynaklanabileceği iddia edilebilir. İlk olarak, dünya ortalama gelir eşitsizliği verileri (World Inequality Database - WID, 2023) gelir eşitsizliğinin 1990'lardan Küresel Finansal Kriz'e (KFK) kadar artış eğiliminde olduğunu, kriz yılında zirve yaptığını ve sonrasında düşüş eğilimine girdiğini göstermektedir. Bu nedenle, önceki çalışmaların çoğunun çok uzun vadeli veriler kullanması ve yapısal kırılmaları dikkate almaması, yanlı tahminlere yol açmış olabilir.

Öte yandan Heritage Foundation tarafından yayınlanan ekonomik özgürlük endeksine (EFI) göre dünya EFI ortalaması (Covid-19 dönemi hariç) KFK sonrasında yükseliş eğilimi göstermiştir. Dahası, verilerine erişilebilen ülkeler için oluşturduğumuz önsel bilgiler, bu çalışmanın temel sorusunu ortaya

çıkarmaktadır. 148 ülkeden oluşan örneklemimizin verilerine dayanarak oluşturduğumuz grafik, EFI'nin gelir eşitsizliği ile negatif ilişkili olduğunu göstermektedir. Başka bir deyişle, dağılım grafiği daha yüksek ekonomik özgürlüğe sahip ülkelerin daha düşük gelir eşitsizliğine sahip olduğunu göstermekte ve ekonomik özgürlüğün gelir eşitsizliği üzerindeki önemine dair kanıtlar sunmaktadır. Bu kanıtlara dayanarak, bu çalışma KFK sonrası döneme odaklanmakta ve ekonomik özgürlüğün gelir eşitsizliği üzerinde ne ölçüde rol oynadığını sormaktadır. Ampirik olarak, gelir eşitsizliğinin dinamik yapısını, potansiyel içsellik sorunlarını ve büyük N ve küçük T panelleri için uygunluğunu dikkate almak için bu çalışmada Blundell ve Bond'un (1998) Sistem-GMM tahmin tekniği kullanılmaktadır. İkinci olarak hem gelir eşitsizliği hem de ekonomik özgürlükler gelişmiş ülkeler ve yükselen piyasalar için önemli farklılıklar göstermektedir. Gelişmiş ekonomilere kıyasla yükselen piyasalarda gelir eşitsizliği daha yüksek, ekonomik özgürlükler ise daha düşüktür. Bu çalışmada bu farklılıkları göz önünde bulundurmak için analizlerimizi gelişmekte olan piyasalar ve gelişmiş piyasalar alt panelleri için de gerçekleştirilmiştir. Üçüncüsü, bu çalışma 2008-2022 dönemi için geleneksel eşitsizlik belirleyicilerini (GSYİH ve enflasyon) de dikkate alarak EFI'nın alt bileşenlerinin (Hukukun Üstünlüğü - ROL, Hükümet Büyüklüğü - GOV, Düzenleyici Kalite - REG, Piyasa Açıklığı - MO) gelir eşitsizliği üzerindeki etkisini de değerlendirmeyi amaçlamaktadır. Ekonomik özgürlük göstergeleri ülke grupları arasında önemli farklılıklar göstermektedir. Dahası, hem gelişmiş hem de gelişmekte olan ülkelerde bazı özgürlük göstergeleri diğerlerine göre çok daha düşük seviyelerdedir. Bu gözlem, EFI'nın alt bileşenlerinin eşitsizlik üzerindeki etkisinin analiz edilmesinin önemine işaret etmektedir. Bu şekilde literatüre üçüncü katkımız, hem gelişmiş hem de gelişmekte olan piyasalardaki politika yapıcıların gelir eşitsizliklerini azaltmak için odaklanmaları gereken ekonomik özgürlüğün farklı yönlerini ampirik olarak ortaya koymaktır. Temel bulgular birkaç önemli noktanın altını çizmektedir. İlk olarak, eşitsizlik değişkeninin gecikmesinin tüm modellerde istatistiksel olarak anlamlı bir değişken olarak tespit edilmesi, dinamik panel regresyon metodolojisinin uygulanmasının önemini vurgulamakta ve gecikmeli bağımlı değişkenin modelleme aşamasınında ihmal edilmesinin yanlı tahminlere yol açacağını göstermektedir. Ayrıca, kişi başına düşen GSYH'nın gelir eşitsizliği üzerinde tespit edilen pozitif ve istatistiksel olarak anlamlı etkisi, ekonomik büyümenin (gelişmiş piyasalarda daha belirgin olmak üzere) eşitsizliği şiddetlendirme eğiliminde olduğunu ortaya koymaktadır. Bu nedenle, politika yapıcılar ekonomik büyümenin bu eşitsizlik yaratan etkisini azaltmak için hedefe yönelik stratejiler geliştirmelidir. Bu, ekonomik kalkınmanın faydalarının adil bir şekilde dağıtılmasını sağlayan kapsayıcı büyüme politikalarının uygulanmasını içerebilir. Eğitime, sağlık hizmetlerine ve sosyal güvenlik ağlarına yatırım yapmak marjinal nüfuslara olumlu yansıyacağı gibi, sosyal hareketliliği teşvik edebilir ve servet birikimindeki eşitsizliği azaltabilir. TÜFE'nin etkisi tüm örneklem için modellerde istatistiksel olarak anlamlı iken, gelişmekte olan piyasalar paneli için tespit edilen etkisi istatistiksel olarak anlamsız hale gelmektedir, bu da bu değişkenin farklı ekonomik

özgürlük ölçütleri ve farklı örneklemler için sağlamlığına işaret etmektedir. Gelişmiş ülkelerde, TÜFE ile eşitsizlik arasındaki bağlantı beş modelden sadece ikisinde gözlemlenmekte ve enflasyon ile gelir eşitsizliği arasındaki ilişkinin karmaşıklığını ortaya koymaktadır. Bu bulgu, gelişmiş ülkelerdeki politika yapıcıların, örneğin sosyal koruma programları, sübvansiyonlar ve artan oranlı vergi yapıları uygulayarak enflasyonun yoksulların satın alma gücü üzerindeki potansiyel olumsuz etkilerini dengeleyecek önlemler almaları gerektiği anlamına gelmektedir.

Analiz sonuçları, çalışmamızın ana odağı olan ekonomik özgürlük ve alt bileşenleri için de önemli bilgiler sunmaktadır. EFI'nın gelir eşitsizliği üzerinde tüm panellerde (en yüksek etki gelişmiş ülkeler panelinde olmak üzere) negatif ve istatistiksel olarak anlamlı etkisi olduğu sonucuna ulaşılmıştır. Bu durum, özgürlük ve eşitsizlik arasında beklenen negatif bağlantıyı destekleyen mevcut literatürle uyumludur. EFI'nin alt bileşenleri olan GOV, REG ve MO da tüm modellerde gelir eşitsizliği üzerinde istatistiksel olarak anlamlı ve negatif etkiler sergilemektedir. Bu bulgular, iş dostu bir ortamın teşvik edilmesi, daha az kısıtlayıcı işgücü piyasası düzenlemelerinin uygulanması ve fiyat istikrarının sürdürülmesinin daha eşit bir gelir dağılımına katkıda bulunabileceğine işaret etmektedir. EFI'nin alt göstergelerinin etkisi gelişmiş ve gelişmekte olan ekonomiler arasında farklılık göstermekte ve spesifik politika uygulamalarının önemini vurgulamaktadır. Hükümet büyüklüğü (GOV) genellikle gelir dağılımında önemli bir faktör olarak görülmesine rağmen, KFK sonrası dönem için şaşırtıcı derecede düşük bir etki göstermekte ve hükümet harcamalarının eşitsizlik üzerindeki nispeten zayıf rolünü vurgulamaktadır. Düzenleyici etkinliğin (REG) gelir eşitsizliğini çoğunlukla ve önemli ölçüde azalttığına dair çarpıcı bulgu, politika yapıcıların düzenleyici süreçleri iyileştirmeye öncelik vermeleri gerektiğini göstermektedir. Bu, gereksiz bürokratik engellerin tespit edilip kaldırılmasını, ruhsatlandırma prosedürlerinin basitleştirilmesini ve düzenleyici karar alma süreçlerinde şeffaflığın teşvik edilmesini içermektedir. Hükümetler daha etkin bir düzenleyici ortam yaratarak iş dünyasının büyümesini kolaylaştırabilir, girişimciliği teşvik edebilir ve ekonomik kapsayıcılığı artırabilir.

Genel olarak, çalışmamız sadece ekonomik özgürlük ve gelir eşitsizliği arasındaki karmaşık dinamiklerin anlaşılmasını zenginleştirmenin yanı sıra, aynı zamanda politika yapıcılar için uygulamaya dönük bilgiler sağlamaktadır. Farklı ekonomik yapılarda gözlemlenen bazı farklılıklar, küresel ölçekte gelir eşitsizliğinin ele alınmasında özel politika yaklaşımlarının öneminin altını çizmektedir.